



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit No. VA0020788

Effective Date: November 1, 2016
Expiration Date: October 31, 2021

AUTHORIZATION TO DISCHARGE UNDER THE VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM

AND

THE VIRGINIA STATE WATER CONTROL LAW

In compliance with the provisions of the Clean Water Act as amended and pursuant to the State Water Control Law and regulations adopted pursuant thereto, the following owner is authorized to discharge in accordance with the information submitted with the permit application, and with this permit cover page, and Parts I and II of this permit as set forth herein.

Owner:	Town of Kilmarnock
Facility Name:	Town of Kilmarnock Wastewater Treatment Plant
City:	Kilmarnock
County:	Lancaster County
Facility Location:	817 Waverly Avenue, Kilmarnock, Virginia 22482

The owner is authorized to discharge to the following receiving stream:

Name:	Indian Creek, UT
Basin:	Chesapeake Bay/Atlantic/Small Coastal
Subbasin:	N/A
Section:	2d
Class:	III
Special Standards:	None

Planning and Water Permit Manager, Piedmont Regional Office

Date

A. Limitations and Monitoring Requirements

1. During the period beginning with the permit's effective date and lasting until the permit's expiration date, the permittee is authorized to discharge from outfall 001. Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS ^(h)					MONITORING REQUIREMENTS		
	MONTHLY AVERAGE		WEEKLY AVERAGE		MINIMUM	MAXIMUM	FREQUENCY ^(e)	SAMPLE TYPE
001 – Flow (MGD) ^(a)	NL		NA		NA	NL	Continuous	TIRE ^(b)
002 – pH (standard units)	NA		NA		6.0	9.0	1 per Day	Grab
004 – Total Suspended Solids	16 mg/L	30 kg/d ^(f)	24 mg/L	45 kg/d	NA	NA	1 per Month	8-HC
006 – Fecal Coliform	200 N/100 mL (geometric mean)		NA		NA	NA	4 per Month	Grab (10am – 4pm)
007 – Dissolved Oxygen	NA		NA		6.5 mg/L	NA	1 per Day	Grab
039 – Ammonia as Nitrogen	0.54 mg/L		0.72 mg/L		NA	NA	3 Days per Week	8-HC
068 – Total Kjeldahl Nitrogen	3.0 mg/L	5700 g/d ^(f)	4.5 mg/L	8500 g/d ^(f)	NA	NA	3 Days per Week	8-HC
120 – <i>E. coli</i>	126 N/100 mL (geometric mean)		NA		NA	NA	3 Days per Week	Grab (10am – 4pm)
131 – Free Cyanide (µg/L) ^(g)	NL		NL		NA	NA	1 per Month	8-HC
137 – Hardness (mg/L as CaCO ₃)	NA		NA		NL	NA	1 per Month	8-HC
140 – <i>Enterococci</i>	35 N/100 mL (geometric mean)		NA		NA	NA	4 per Month	Grab (10am – 4pm)
159 – cBOD ₅	16 mg/L	30 kg/d ^(f)	24 mg/L	45 kg/d	NA	NA	3 Days per Week	8-HC
196 – Total Recoverable Zinc	140 µg/L ^(f)		140 µg/L ^(f)		NA	NA	1 per Month	8-HC
203 – Total Recoverable Copper	17 µg/L		17 µg/L		NA	NA	1 per Month	8-HC
794 – Total Phosphorus ^{(c) (d)} Calendar Year Average	0.30 mg/L		NA		NA	NA	1 per Year	Calculated

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS ^(h)				MONITORING REQUIREMENTS	
	MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY ^(e)	SAMPLE TYPE
806 – Total Phosphorus ^{(c) (d)} Year-to-Date (mg/L)	NL	NA	NA	NA	1 per Month	Calculated
872 – Dissolved Sulfide (mg/L)	NL	NL	NA	NA	1 per 6 Months	Grab
328 – Hydrogen Sulfide (mg/L)	NL	NL	NA	NA	1 per 6 Months	Calculated ⁽ⁱ⁾

“NL” means that no limitation is established; however, monitoring and reporting are required. “NA” means not applicable.

- (a) The design flow of this treatment facility is 0.50 MGD. See Part I.C.1 for additional flow requirements.
 - (b) Totalizing, Indicating and Recording Equipment.
 - (c) See Part I.C.15 and Part I.C.16 for nutrient reporting requirements.
 - (d) In addition to any Total Nitrogen or Total Phosphorus concentration limits (or monitoring requirements without associated limits) listed above, this facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN020038, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Watershed in Virginia.
 - (e) “1 per 6 Months” monitoring period shall be defined as one sample taken every six months, in accordance with the following schedule: January 1 – June 30, to be reported on the DMR due July 10th of each year; July 1 – December 31, to be reported on the DMR due January 10th of the following year. 1 per Year monitoring period shall be defined as January 1 through December 31 to be reported on the DMR due no later than January 10 of the following year. “4 per Month” means four samples in each complete calendar month, collected weekly.
 - (f) These limitations are expressed in two (2) significant figures.
 - (g) Laboratory analyses shall utilize ASTM D 4282-02, Standard Test Method for Determination of Free Cyanide in Water and Wastewater by Microdiffusion, or any approved method presented in 40 CFR Part 136.
 - (h) See Part I.C.10, Compliance Reporting for quantification levels and reporting requirements.
 - (i) The concentration of un-iodized hydrogen sulfide (H₂S) shall be calculated and reported on the DMR in accordance with Standard Methods (SM) 4500 S₂ H (dissolved sulfide sample pH, temperature, and conductivity will need to be determined in order to perform this calculation). If the sample results of dissolved sulfide are below the quantification level specified in Part I.C.10, then the concentration of un-ionized H₂S should be reported as “<QL”.
2. There shall be no discharge of floating solids or visible foam in other than trace amounts.
 3. At least 85% removal for cBOD₅ and TSS must be obtained for this effluent.

B. Additional Limitations and Monitoring Requirements

If chlorination is chosen as a disinfection method, Total Residual Chlorine (TRC) shall be limited and monitored by the permittee as specified below:

1. The permittee shall monitor the TRC at the outlet of each operating chlorine contact tank three (3) times per day at four (4) hour intervals by grab sample.
2. No more than nine (9) of all samples taken at the outlet of each chlorine contact tank shall be less than 1.5 mg/L for any one calendar month (DMR parameter 157).
3. No TRC sample collected at each outlet of the chlorine tank shall be less than 0.60 mg/L (DMR parameter 213).
4. If dechlorination facilities exist, the samples above shall be collected prior to dechlorination.
5. Effluent TRC shall be limited and monitored, following dechlorination, by the permittee as specified below:

TRC (005)	MONTHLY AVERAGE	WEEKLY AVERAGE	FREQUENCY	SAMPLE TYPE
	7.4 µg/L	8.3 µg/L	3 per Day (at 4 hr. intervals)	Grab

6. Fecal Coliform, *E. coli*, and *Enterococci* shall continue to be limited in accordance with Part I.A.1 of this permit; however, the monitoring requirements shall be reduced to no fewer than four (4) grab samples in each complete calendar month, collected weekly between 10 am and 4 pm.

C. Other Requirements and Special Conditions

1. 95% Capacity Reopener
A written notice and a plan of action for ensuring continued compliance with the terms of this permit shall be submitted to DEQ Piedmont Regional Office when the monthly average flow influent to the sewage treatment plant reaches 95 percent of the design capacity authorized in this permit for each month of any three consecutive month period. The written notice shall be submitted within 30 days and the plan of action shall be received at the DEQ Piedmont regional Office no later than 90 days from the third consecutive month for which the flow reached 95 percent of the design capacity. The plan shall include the necessary steps and a prompt schedule of implementation for controlling any current or reasonably anticipated problem resulting from high influent flows. Failure to submit an adequate plan in a timely manner shall be deemed a violation of this permit.
2. Indirect Dischargers
The permittee shall provide adequate notice to the DEQ Piedmont Regional Office of the following:
 - a. Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Section 301 or 306 of the Clean Water Act and the State Water Control Law if it were directly discharging those pollutants; and
 - b. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of this permit.

Adequate notice shall include information on (i) the quality and quantity of effluent introduced into the treatment works, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the treatment works.

3. CTC, CTO Requirement

The permittee shall, in accordance with the DEQ Sewage Collection and Treatment Regulation (9 VAC 25-790), obtain a Certificate to Construct (CTC), and a Certificate to Operate (CTO) from the DEQ Office of Wastewater Engineering (for Water Quality Improvement Funded (WQIF) projects) or submitted by the design engineer and owner to the DEQ regional water permit manager (for non WQIF projects) prior to constructing wastewater treatment works and operating the treatment works, respectively. Non-compliance with the CTC or CTO shall be deemed a violation of the permit.

Upon issuance of a CTC for nutrient control technology, DEQ staff shall initiate modification, or alternately, revocation and reissuance, of this permit, to include annual concentration limits based on the nutrient removal technology listed in the CTC. Upon issuance of a CTO, any nutrient removal facilities installed shall be operated to achieve design Total Nitrogen and Total Phosphorus concentrations.

4. Operation and Maintenance Manual Requirement

The permittee shall maintain a current Operations and Maintenance (O&M) Manual for the treatment works that is in accordance with VPDES Regulations 9VAC25-31 and Sewage Collection & Treatment Regulations, 9 VAC 25-790. The O&M Manual and subsequent revisions shall include the manual effective date and meet Part II.K.2 and Part II.K.4 Signatory Requirements of the permit. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M manual available to Department personnel for review during facility inspections. Within 30 days of a request by DEQ, the current O&M Manual shall be submitted to the DEQ Regional Office for review and approval. The O&M manual shall detail the practices and procedures which will be followed to ensure compliance with the requirements of this permit. This manual shall include, but not necessarily be limited to, the following items, as appropriate:

- a. Permitted outfall locations and techniques to be employed in the collection, preservation, and analysis of effluent and sludge samples;
- b. Procedures for measuring and recording the duration and volume of treated wastewater discharged;
- c. Discussion of Best Management Practices, if applicable;
- d. Procedures for handling, storing, and disposing of all wastes, fluids, and pollutants characterized in Part I.C.13 that will prevent these materials from reaching state waters;
- e. Discussion of treatment works design, treatment works operation, routine preventative maintenance of units within the treatment works, critical spare parts inventory and record keeping; and,
- f. A plan for the management and/or disposal of waste solids and residues.
- g. Hours of operation and staffing requirements for the plant to ensure effective operation of the treatment works and maintain permit compliance.
- h. List of Facility, local and state emergency contacts; procedures for reporting and responding to any spill/overflows/treatment works upsets

5. Licensed Operator Requirement

The permittee shall employ or contract at least one Class II licensed wastewater works operator for this facility. The license shall be issued in accordance with Title 54.1 of the Code of Virginia and the Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professional Regulations. The permittee shall notify the Department in writing whenever he is not complying, or

has grounds for anticipating he will not comply with this requirement. The notification shall include a statement of reasons and a prompt schedule for achieving compliance.

6. Reliability Class

The permitted treatment works shall meet Reliability Class I from 9 VAC 25-790-70.

7. Closure Plan

If the permittee plans an expansion or upgrade to replace the existing treatment works, or if facilities are permanently closed, the permittee shall submit to the DEQ Piedmont Regional Office a closure plan for the existing treatment works. The plan shall address the following information as a minimum: Verification of elimination of sources and/or alternate treatment scheme; treatment, removal and final disposition of residual wastewater and solids; removal/demolition/disposal of structures, equipment, piping and appurtenances; site grading, and erosion and sediment control; restoration of site vegetation; access control; fill materials; and proposed land use (post-closure) of the site. The plan should contain proposed dates for beginning and completion of the work. The plan must be approved by the DEQ prior to implementation. Once approved, the plan shall become an enforceable part of this permit and closure shall be implemented in accordance with the approved plan. No later than 14 calendar days following closure completion, the permittee shall submit to the DEQ Piedmont Regional Office written notification of the closure completion date and a certification of closure in accordance with the approved plan.

8. Water Quality Criteria Reopener

Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively revoked and reissued to incorporate appropriate limitations.

9. Sludge Reopener

The Board may promptly modify or revoke and reissue this permit if any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the Clean Water Act is more stringent than any requirements for sludge use or disposal in this permit, or controls a pollutant or practice not limited in this permit.

10. Compliance Reporting

a. The quantification levels (QL) shall be less than or equal to the following concentrations:

<u>Effluent Parameter</u>	<u>Quantification Level</u>
cBOD ₅	2 mg/L
Total Suspended Solids	1.0 mg/L
Total Residual Chlorine	0.10 mg/L
Ammonia as Nitrogen	0.20 mg/L
Total Kjeldahl Nitrogen	0.50 mg/L
Dissolved Sulfide	0.10 mg/L
Total Recoverable Copper	7.2 µg/L
Total Recoverable Zinc	52 µg/L

The QL is defined as the lowest concentration used to calibrate a measurement system in accordance with the procedures published for the method. It is the responsibility of the permittee to ensure that proper quality assurance/quality control (QA/QC) protocols are followed during the sampling and analytical procedures. QA/QC information shall be documented to confirm that appropriate analytical procedures have been used and the required QLs have been attained. The permittee shall use any method in accordance with Part II.A of this permit.

b. Monthly Average – Compliance with the monthly average limitations and/or reporting requirements for the parameters listed in subsection a. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must

be less than or equal to the QL listed in a. above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis shall be treated as it is reported. An arithmetic average shall be calculated using all reported data for the month, including the defined zeros. This arithmetic average shall be reported on the Discharge Monitoring Report (DMR) as calculated. If all data are below the QL used for the analysis, then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported monthly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the monthly average of the calculated daily quantities.

Weekly Average – Compliance with the weekly average limitations and/or reporting requirements for the parameters listed in subsection a. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each complete calendar week and entirely contained within the reporting month. The maximum value of the weekly averages thus determined shall be reported on the DMR. If all data are below the QL used for the analysis, then the weekly average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported weekly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the maximum weekly average of the calculated daily quantities.

- c. Single Datum – Any single datum required shall be reported as "<QL" if it is less than the QL used for the analysis (QL must be less than or equal to the QL listed in a. above). Otherwise the numerical value shall be reported.
- d. Significant Digits – The permittee shall report at least the same number of significant digits as the permit limit for a given parameter. Regardless of the rounding convention used by the permittee (i.e., 5 always rounding up or to the nearest even number), the permittee shall use the convention consistently, and shall ensure that consulting laboratories employed by the permittee use the same convention.
- e. For parameters not addressed in paragraph a. above or Part I.C.15 below, all concentration data less than the QL used for analysis shall be treated equal to the QL used for the analysis in the calculation of any required average concentration and loading. The resulting average value shall be reported on the DMR as being less than ("<") that calculated value.

11. Sludge Use and Disposal

The permittee shall conduct all sewage sludge use or disposal activities in accordance with the Sludge Management Plan (SMP) approved with the issuance of this permit. Any proposed changes in the sewage sludge use or disposal practices or procedures followed by the permittee shall be documented and submitted for DEQ approval 90 days prior to the effective date of the changes. Upon approval, the revised SMP becomes an enforceable part of the permit. The permit may be modified or alternatively revoked and reissued to incorporate limitations or conditions necessitated by substantive changes in sewage sludge use or disposal practices.

12. Pretreatment Program

- a. Within 180 days of the effective date of this permit, the permittee shall submit to the DEQ Piedmont Regional Office a survey of all Industrial Users (IUs) discharging to the Publicly Owned Treatment Works (POTW). The information shall be submitted on the DEQ

Discharger Survey Form, or an equivalent form that includes the quantity and quality of the wastewater. Survey results shall include the identification of Significant Industrial Users (SIUs) of the POTW. In lieu of the survey, the permittee may elect to develop, submit for DEQ Piedmont Regional Office approval, and implement a plan to survey (using internal work processes and systems controls), on pre-established intervals throughout the term of this permit, the industrial community in their jurisdiction; if an alternative plan is developed, the permittee shall submit the plan to the DEQ Piedmont Regional Office for approval no later than 90 days after the effective date of this permit.

- b. Should evaluation by the DEQ of results of the Industrial User survey conducted in accordance with item a. above indicate that the permittee is not required to implement a pretreatment program, the requirements for program development described in item d below may be suspended by the DEQ.
- c. If Categorical Industrial User(s) are identified, or if the permittee or DEQ determines that the industrial user(s) have potential to adversely affect the operation of the POTW or cause violation(s) of federal, state or local standards or requirements, the permittee shall develop and submit to the DEQ Regional Office within one year of written notification by DEQ a pretreatment program for approval. The program shall enable the permittee to control by permit the Significant Industrial Users* discharging wastewater to the treatment works.
- d. The approvable pretreatment program submission shall at a minimum contain the following parts:
 - (1) Legal authority,
 - (2) Program procedures,
 - (3) Funding and resources,
 - (4) Local limits evaluation, and local limits if needed,
 - (5) Enforcement response plan, and
 - (6) List of Significant Industrial Users*.
- e. Where the permittee is required to develop a pretreatment program, they shall submit to the DEQ Regional Office an annual report no later than January 31st of each year and must include:
 - (1) An updated list of the Significant Industrial Users* noting all of the following:
 - (a) facility address (mailing and physical), phone and contact name, title and email;
 - (b) explanation of SIUs deleted from the previous years list;
 - (c) identify which Industrial Users (IUs) are subject to Categorical Standards and note which Standard (ie. metal finishing);
 - (d) specify which 40 CFR part(s) is/are applicable;
 - (e) indicate which IUs are subject to local standards that are more stringent than Categorical Pretreatment Standards;
 - (f) indicate which IUs are subject only to local requirements;
 - (g) identify which IUs are subject to Categorical Pretreatment Standards that are subject to reduced reporting requirements under 9 VAC 25-31-840 E.3;
 - (h) identify which IUs are non-significant Categorical Industrial Users;
 - (j) applicable Standard Industrial Classification (SIC) and North American Industry Classification System (NAICS) codes.
 - (2) A summary of the compliance status of each Significant Industrial User with pretreatment standards and permit requirements.
 - (3) A summary of the number and types of Significant Industrial User sampling and inspections performed by the POTW.

- (4) All information concerning any interference, upset, VPDES permit or Water Quality Standards violations directly attributable to Significant Industrial Users and enforcement actions taken to alleviate said events.
 - (5) A description of all enforcement actions taken against Significant Industrial Users during the previous 12 months.
 - (6) A summary of any changes to the submitted pretreatment program that have not been previously reported to the DEQ Regional Office.
 - (7) A summary of the permits issued to Significant Industrial Users since the last annual report.
 - (8) POTW and self-monitoring results for Significant Industrial Users determined to be in significant non-compliance during the reporting period.
 - (9) Results of the POTW's influent/effluent/sludge sampling, not previously submitted to DEQ.
 - (10) Copies of newspaper publications of all Significant Industrial Users in significant noncompliance during the reporting period. This is due no later than March 31 of each year.
 - (11) Signature of an authorized representative.
- f. The DEQ may require the POTW to institute changes to the legal authority regarding Significant Industrial User permit(s):
- (1) If the legal authority does not meet the requirements of the Clean Water Act, Water Control Law or State regulations;
 - (2) If problems such as interferences, pass-through, violations of water quality standards or sludge contamination develop or continue; or
 - (3) If federal, state or local requirements change.

*A significant industrial user is one that:

- Has an average flow of 25,000 gallons or more per day of process** wastewater;
- Contributes a process wastestream which makes up 5.0-percent or more of the average dry weather hydraulic or organic capacity of the POTW;
- Is subject to the categorical pretreatment standards; or
- Has significant impact, either singularly or in combination with other Significant Dischargers, on the treatment works or the quality of its effluent.

**Excludes sanitary, non-contact cooling water and boiler blowdown.

13. Materials Handling/Storage

Any and all product, materials or wastes shall be handled, disposed of, and/or stored in such a manner and consistent with Best Management Practices, so as not to permit a discharge of such product, materials, or other wastes to State waters, except as expressly authorized.

14. Reopeners

This permit may be modified or, alternatively, revoked and reissued:

- a. If any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the facility that are not consistent with the permit requirements;
- b. To incorporate technology-based effluent concentration limitations for nutrients in conjunction with the installation of nutrient control technology, whether by new construction, expansion or upgrade, or
- c. To incorporate alternative nutrient limitations and/or monitoring requirements, should:

- i. the State Water Control Board adopt new nutrient standards for the water body receiving the discharge, including the Chesapeake Bay or its tributaries, or
- ii. a future water quality regulation or statute require new or alternative nutrient control.

15. Nutrient Reporting Calculations

For each calendar month, the DMR shall show the calendar year-to-date average concentration (mg/L) calculated in accordance with the following formulae:

$$AC_{avg}\text{-YTD} = (\sum_{(\text{Jan-current month})} MC_{avg}) \div (\# \text{ of months })$$

where:

$AC_{avg}\text{-YTD}$ = calendar year-to-date average concentration (mg/L) (parameter code 806)

MC_{avg} = monthly average concentration (mg/L) as reported on the Nutrient General Permit DMR

The total phosphorus average concentration (mg/L) for each calendar year (AC) shall be shown on the December DMR due January 10th of the following year. This value shall be calculated in accordance with the following formulae:

$$AC_{avg} = (\sum_{(\text{Jan-Dec})} MC_{avg}) \div 12$$

where:

AC_{avg} = calendar year average concentration (mg/L) (parameter code 794)

MC_{avg} = monthly average concentration (mg/L) as reported on the Nutrient General Permit DMR

For Total Phosphorus, all daily concentration data below the quantification level (QL) for the analytical method used should be treated as half the QL. All daily concentration data equal to or above the QL for the analytical method used shall be treated as it is reported.

16. Suspension of Concentration Limits for E3/E4 Facilities

The annual average concentration limitation for Total Phosphorus is suspended during any calendar year in which the facility is considered by DEQ to be a participant in the Virginia Environmental Excellence Program in good standing at either the Exemplary Environmental Enterprise (E3) level or the Extraordinary Environmental Enterprise (E4) level, provided that the following conditions have also been met:

- a. The facility has applied for (or renewed) participation, been accepted, maintained a record of sustained compliance and submitted an annual report according to the program guidelines;
- b. The facility has demonstrated that they have in place a fully implemented environmental management system (EMS) with an alternative compliance method that includes operation of installed nutrient removal technologies to achieve the annual average concentration limitation, and
- c. The E3/E4 designation from DEQ and implementation of the EMS has been in effect for the full calendar year.

The annual average concentration limitation for Total Phosphorus is not suspended in any calendar year following a year in which the facility failed to achieve the annual average concentration limitation as required by b. above.